

South Platte River Basin

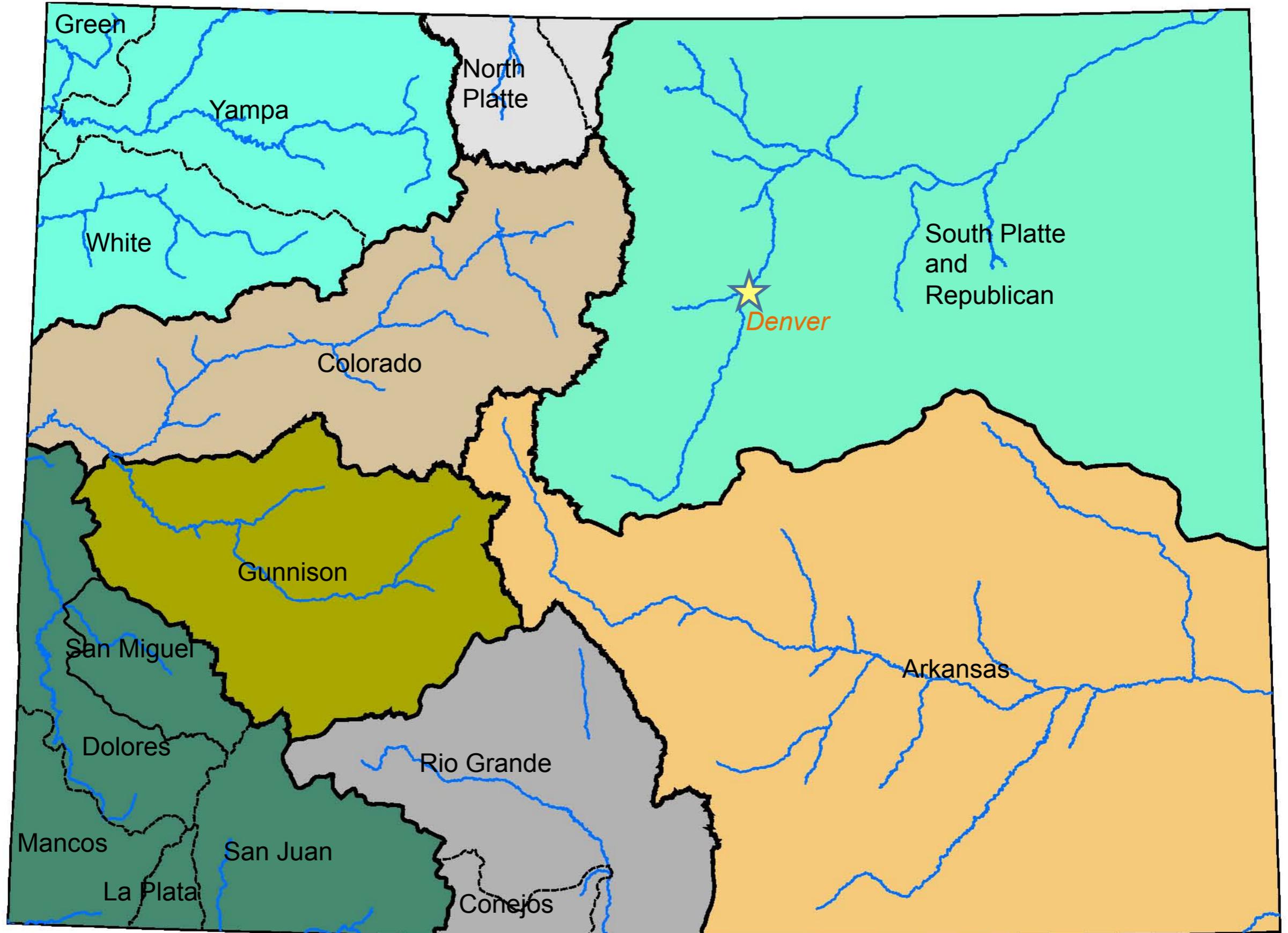
Drought Effects of 2002

Kevin Rein

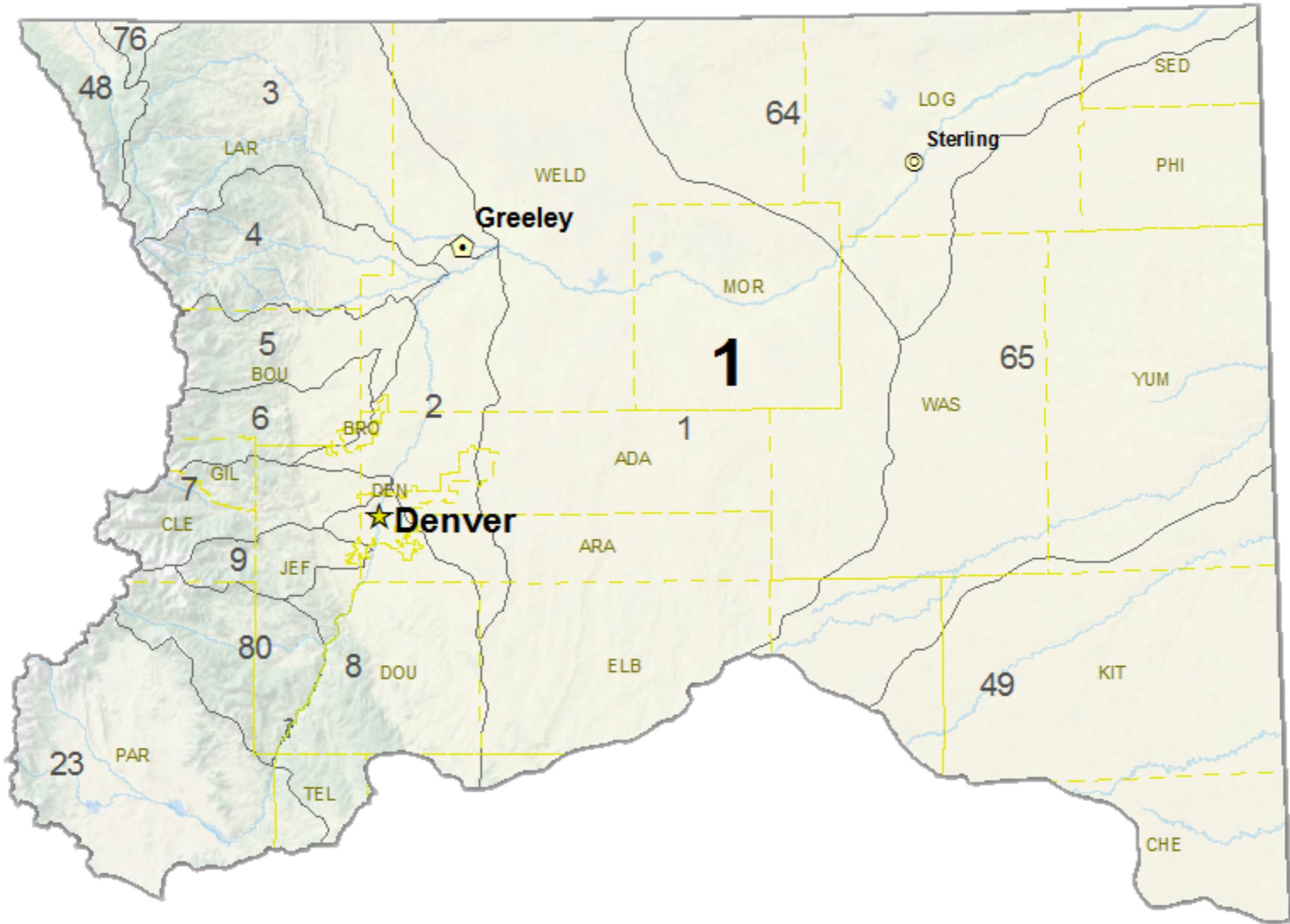
Deputy State Engineer

Colorado Division of Water Resources

Colorado's Major Basins and Subbasins







South Platte Basin Description

- Drainage area - 23,138 sq. miles
- Average precipitation- 10 to 17 inches per year
- Elevation - 3,400 to 14,000 + Ft
- Irrigated acreage - 1.1 million acres

South Platte Basin Description

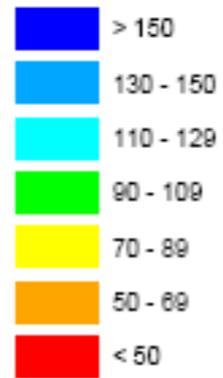
- Native flows, 1,400,000 acre-feet annually
- Transbasin water provides another 400,000 acre-feet annually
- Ground water pumping is 640,000 acre-feet
- Total annual surface water diversions equal approximately 4,000,000 acre-feet

2002

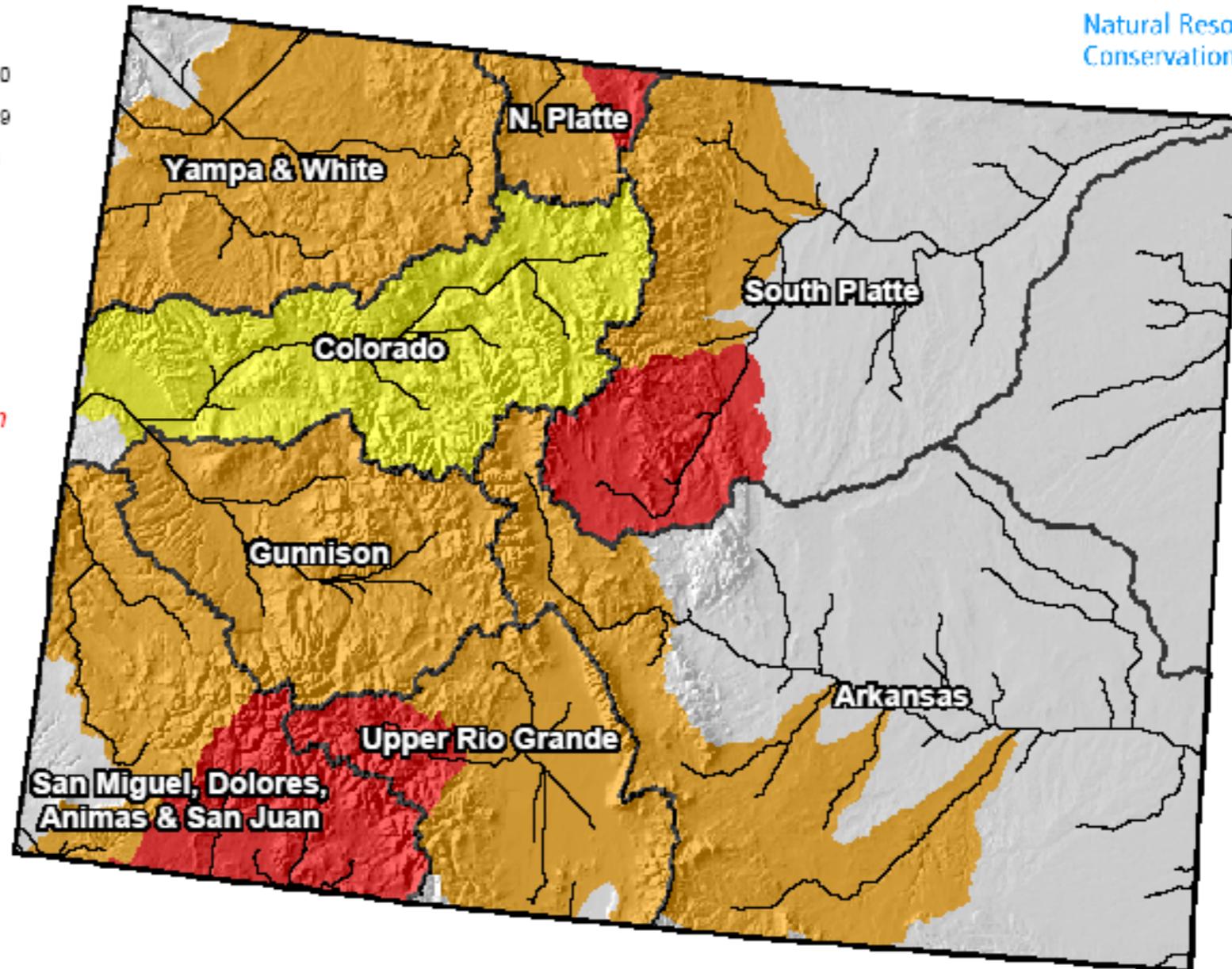
Colorado Snowpack Map



Percent of Average



*Provisional Data
Subject to Revision*



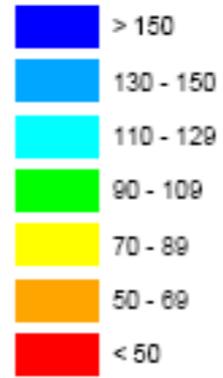
Current as of February 1, 2002

1998

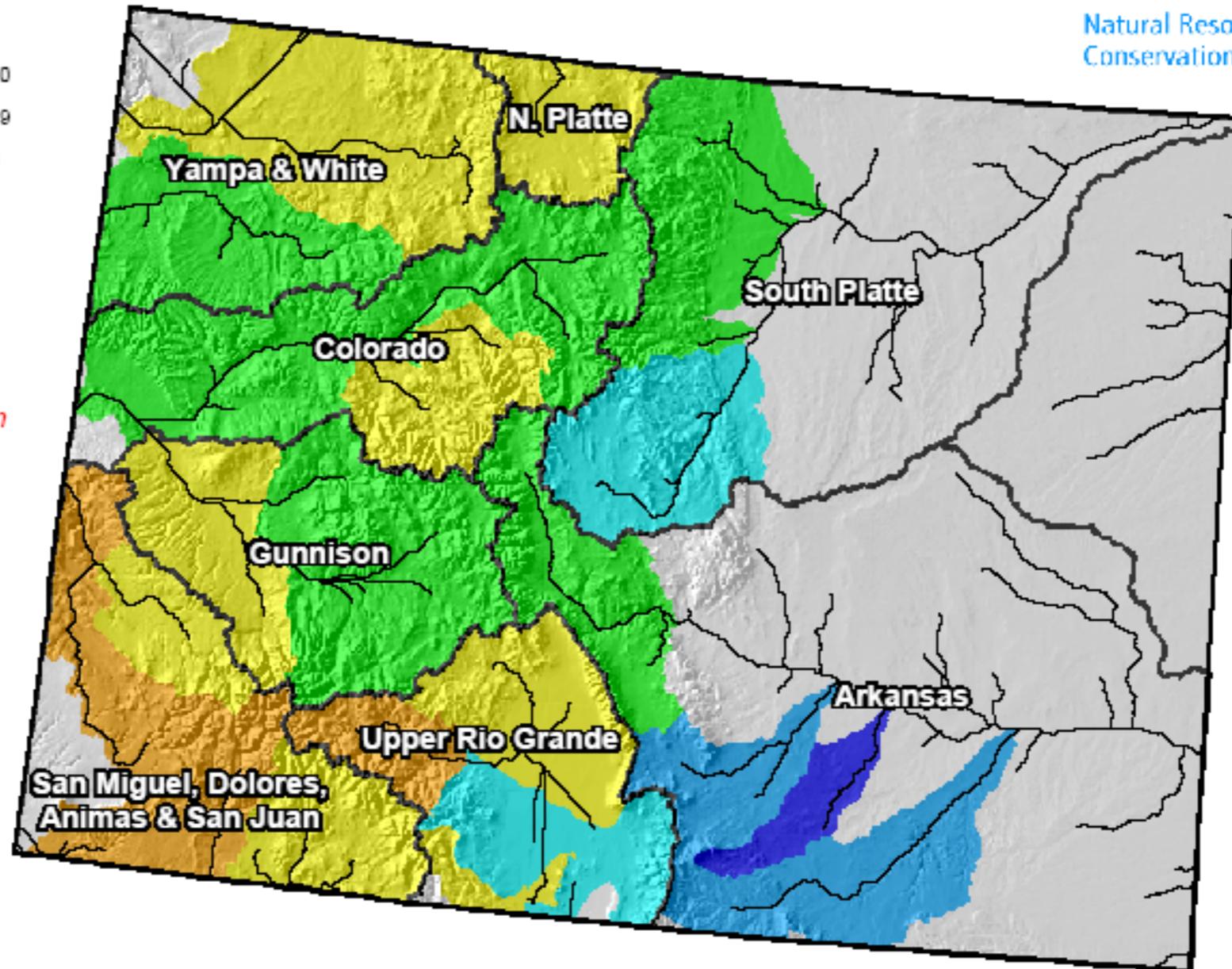
Colorado Snowpack Map



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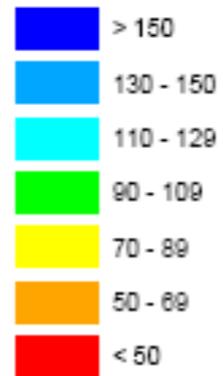
Current as of February 1, 1998

2002

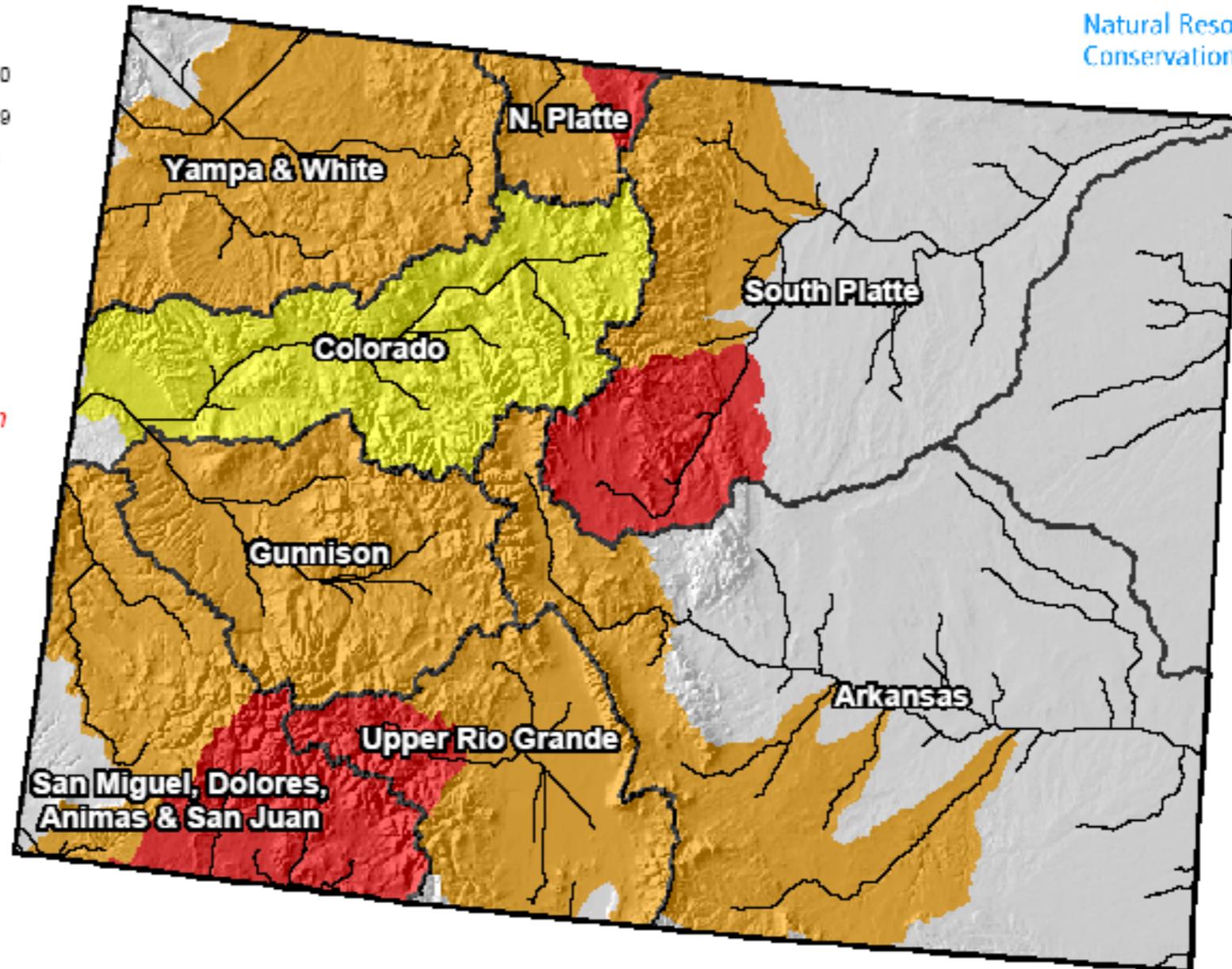
Colorado Snowpack Map



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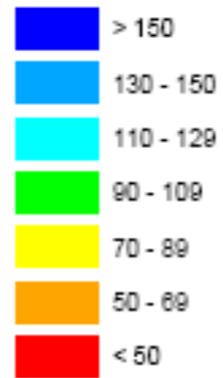
Current as of February 1, 2002

2005

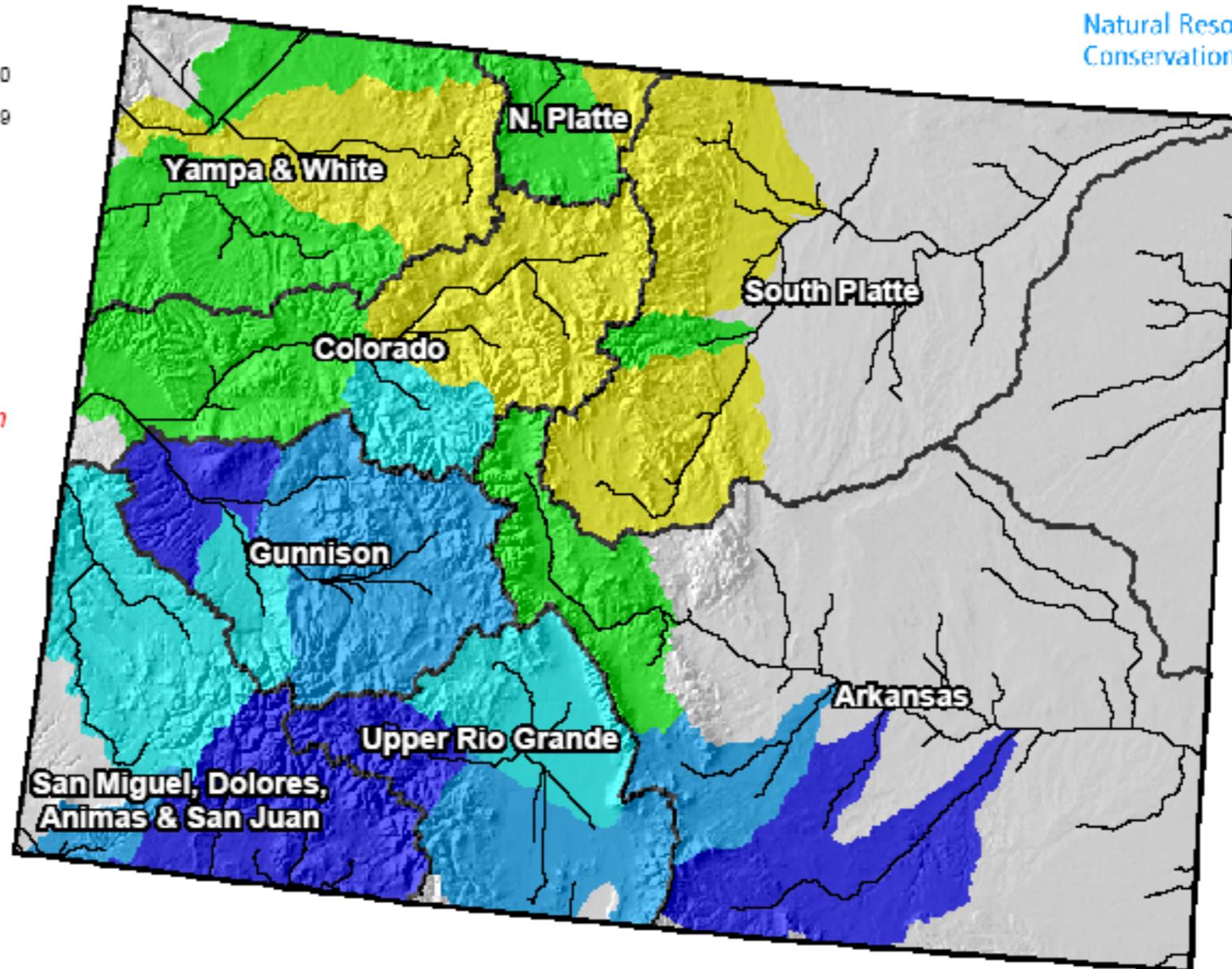
Colorado Snowpack Map



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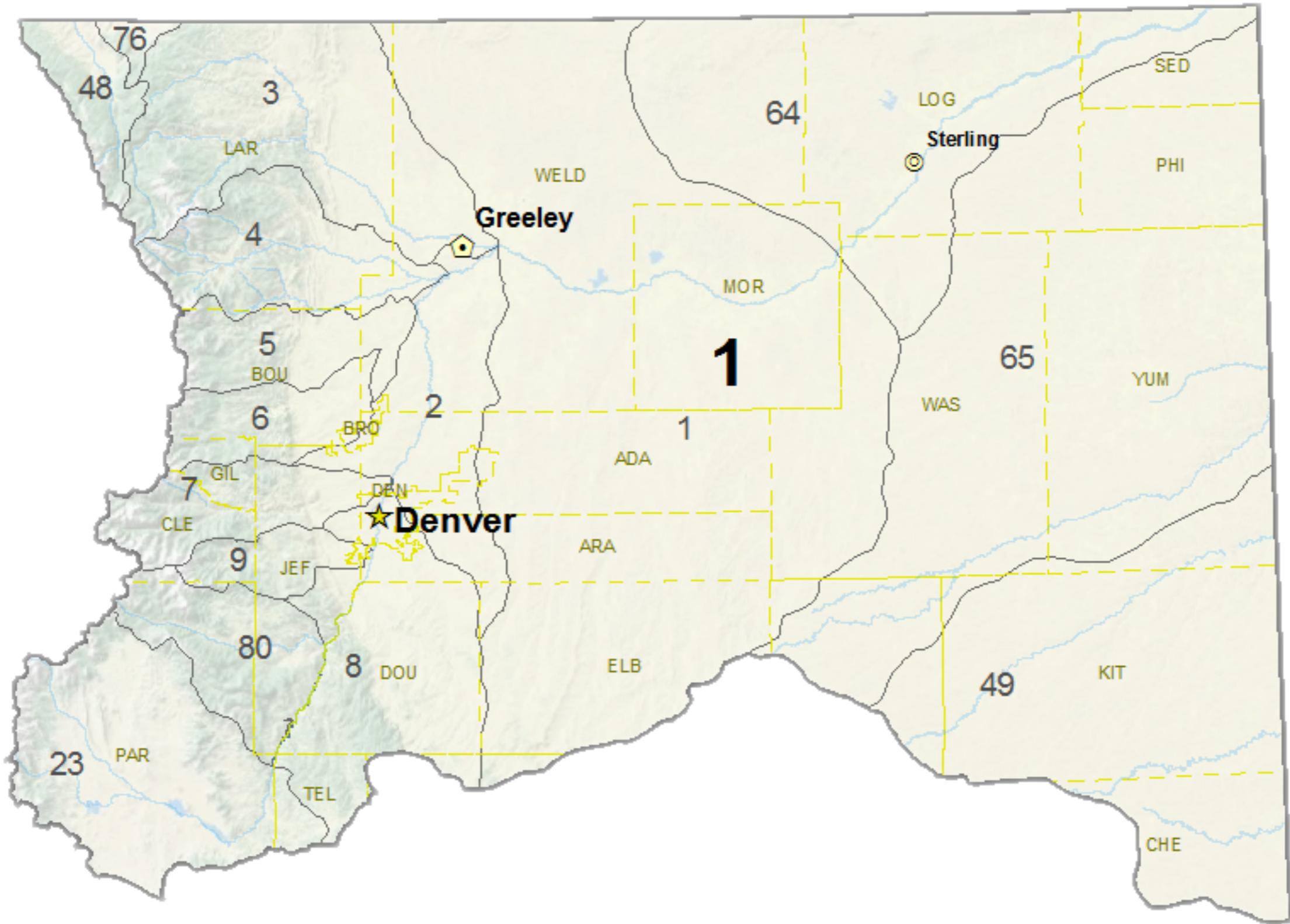
Current as of February 1, 2005

2002 Drought

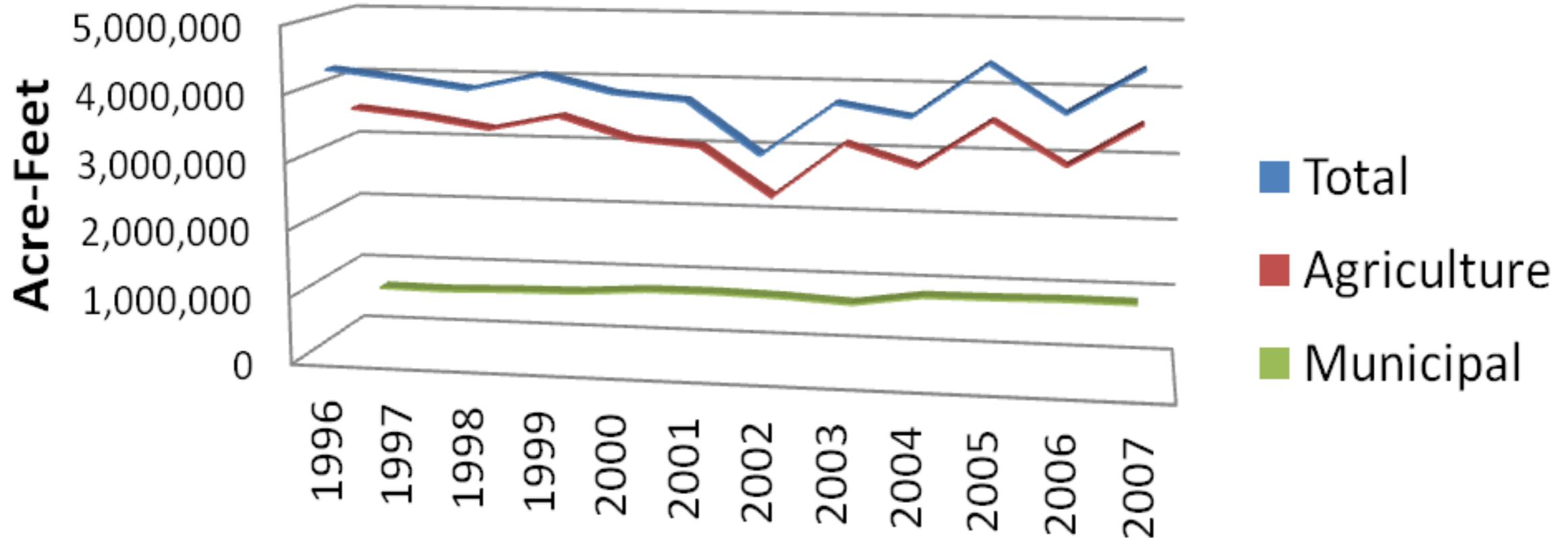
- New records for low streamflow at many gages
- River call on the South Platte River started in April and continued to December 31, 2002; (before, call ran June through August)

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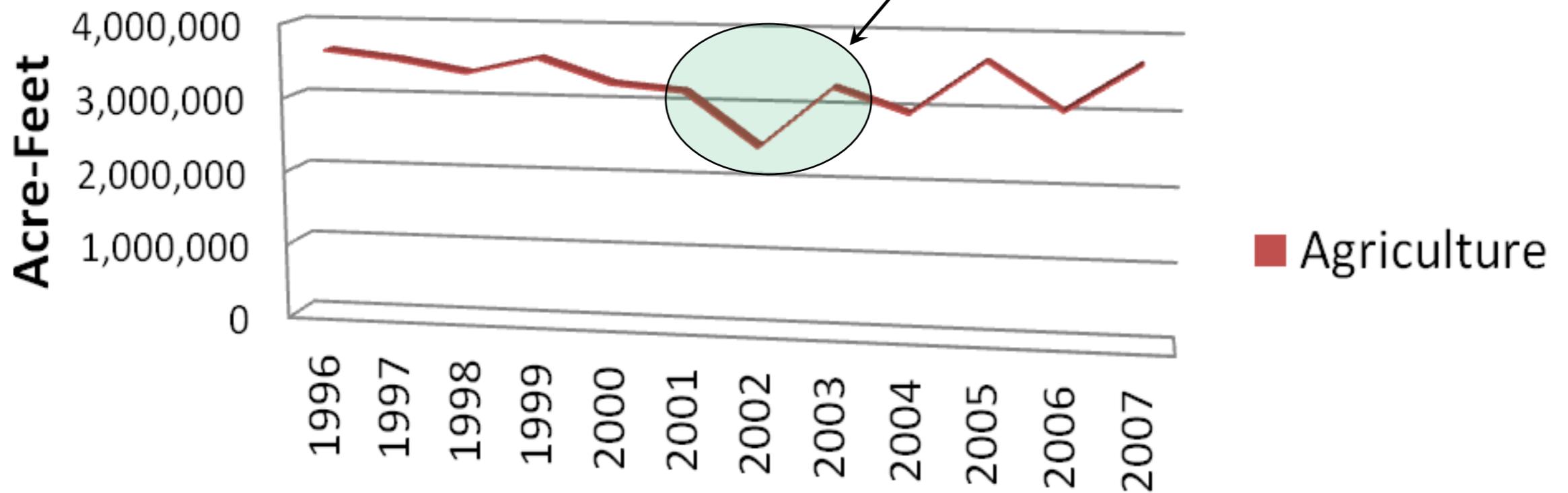


South Platte River Basin Diversions By Year



South Platte River Basin Diversions

By Year



2002 Drought

Look at the numbers

- Ag deliveries reduced from 3.3 million acre-feet to less than 2.5 million acre-feet
- Approximately 75 percent of average
- How was the effect more pronounced?

2002 Drought

Additional considerations

- The 25 percent reduction reflects diversions, not actual supply
- Percent reduction of supply was greater
- Senior-most water rights saw a greater reduction
- Seasonal component

2002 Drought

Focus: ground water component

- Over 5,000 alluvial wells in the basin
- Pumping is regulated
- Pumping limits
- Alluvial ground water, not a drought solution
- In addition, these events permanently changed the makeup of plans that allow wells to operate in the basin